

SN 10/620,769



Responsive to Action  
dated 10/19/2007

**ATTACHMENT B**  
**Amendments to the Claims**

This listing of claims will replace all prior versions, and listings, of claims in the application.

1-31. (Canceled)

32. (Currently Amended) A method of synchronizing a plurality of local clocks of a plurality of USB devices to be synchronized, each local clock corresponding to each one of a plurality of USB devices, the plurality of USB devices being connected to a common USB host via a USB tree so that said plurality of local clocks of said plurality of USB devices are in phase and at a common frequency, comprising:

~~(a) locking said plurality of local clocks comprising:~~  
~~generating or designating specific signal structures for transmission to the plurality of USB devices;~~  
~~transmitting by the common USB host to each of said plurality of USB devices at least one of or more said first specific signal structures;~~  
~~monitoring local USB signals at each of said plurality of USB devices for said one or more first specific signal structures;~~

~~generating a plurality of local reference signals, each local reference signal corresponding to each respective one of said plurality of USB devices, from at least one of said first specific signal structures received at each of said plurality of USB devices; and~~

~~locking a plurality of frequencies of said plurality of local clocks, each frequency corresponding to a respective one of said plurality of local clocks, and each frequency being locked to each corresponding one of said plurality of local reference signals to a predetermined degree;~~

~~(b) (i) designating a USB device in said USB tree as a master USB device in said USB tree for monitoring USB data traffic on said USB to and from each of said plurality of USB devices;~~

~~(ii) generating or designating specified signal structures for transmission to said plurality of USB devices;~~

~~(iii) transmitting said specified one or more second specific signal structures to each of said plurality of USB devices and transmitting specified response signals corresponding to said one or more second specific signal structures from said plurality of USB devices;~~

(iv) monitoring said traffic on said USB with said master USB device for said specified one or more second specific signal structures and for specified response signals from said plurality of USB devices with said master USB device;

(v) generating first event triggering signals local to said master USB device corresponding to decoding of at least one of said specified second specific signal structures;

(vi) generating second event triggering signals local to said master USB device corresponding to decoding of said specified response signals from said plurality of USB devices;

(vii) measuring respective time intervals between said first and second event triggering signals for said plurality of USB devices, each time interval corresponding to each one of said plurality of USB devices;

(viii) determining a plurality of propagation times, each propagation time from said master USB device to each one of said plurality of USB devices being determined from said time interval corresponding to each one of said plurality of USB devices; and

(ix) determining a plurality of relative propagation times, each relative propagation time corresponding to each one of said plurality of USB devices other than a reference USB device selected from said plurality of USB devices, each relative propagation time being determined with respect to said reference USB device by determining a difference between the propagation time interval of said reference USB device and the propagation time interval of each corresponding one of said plurality of USB devices other than said reference USB device;

(e) determining whether a temporal adjustment or phase offset is required for each local clock of said plurality of local clocks to result in said plurality of local clocks across said USB tree being in phase;

(d) for each local clock requiring a respective temporal adjustment or phase offset, transmitting said respective temporal adjustment or phase offset to each corresponding USB device of said plurality of USB devices; and

(e) adjusting the phase of each local clock requiring a temporal adjustment or phase offset on the corresponding USB device according to said respective temporal adjustment or phase offset.

33. (Original) A method as claimed in claim 32, wherein at least some of said local clocks are shifted in phase by a desired amount.

34. (Previously Amended) A method for synchronously triggering and thereby initiating or stopping one or more processes, comprising:

synchronizing a plurality of local clocks of said plurality of USB devices according to the method of claim 32;

monitoring traffic local to each of said plurality of USB devices for a trigger request signal and for a trigger command signal, indicative respectively of an initiating trigger request and of a trigger command;

transmitting said trigger request signal with said USB host to each of said plurality of USB devices to prepare said plurality of USB devices to each execute said initiating trigger request;

configuring said plurality of USB devices to respond to said trigger request signal by configuring themselves to perform said one or more processes upon receipt of said trigger command signal;

transmitting said trigger command signal with said USB host to each of said plurality of USB devices; and

decoding said trigger command from said trigger command signal with each of said plurality of USB devices and thereby configuring said plurality of USB devices to initiate or stop said one or more processes at a common time;

whereby said one or more processes can be initiated or stopped upon receipt by said plurality of USB devices of said trigger command signal from said USB host.

35. (Currently Amended) A method as claimed in claim 34, wherein said trigger request signal comprises a USB packet signal structure, any ~~of the~~-command sequences sent to the plurality of USB devices, or any ~~of the~~-data sequences sent to the plurality of USB devices.

36. (Original) A method as claimed in claim 34, including transmitting said trigger request signal and said trigger command signal in a predetermined sequence.

37. (Currently Amended) A method as claimed in claim 34, wherein said trigger command signal comprises a USB packet signal structure, any ~~of the~~-command sequences sent to the plurality of USB devices, or any ~~of the~~-data sequences sent to the plurality of USB devices.

38. (Previously Amended) A method as claimed in claim 34, wherein each of said

plurality of USB devices includes a local USB decoding device, said local USB decoding device comprising a microcontroller, a microprocessor, a field programmable gate array or any other element capable of decoding data structures within each of said USB devices.

39. (Previously Amended) A method according to claim 34, wherein said trigger request signal comprises OUT tokens, IN tokens, ACK tokens, NAK tokens, STALL tokens, PRE tokens, SOF tokens, SETUP tokens, DATA0 tokens, DATA1 tokens, or other predetermined bit patterns.

40. (Canceled)

41. (Previously Presented) A method according to claim 34, wherein said trigger command is encoded into said USB data traffic.

42-50. (Canceled)

51. (Previously Presented) A method as claimed in claim 34, including configuring said plurality of USB devices to in concert initiate or stop said one or more processes.

52. (Previously Presented) A method as claimed in claim 34, wherein said one or more processes are a plurality of processes and the method includes configuring each of said plurality of USB devices to initiate or stop one or more of said plurality of processes.

53. (Previously Presented) A method as claimed in claim 34, wherein said one or more processes are a plurality of identical processes.

54. (Previously Presented) A method as claimed in claim 34, wherein said one or more processes are a plurality of processes that includes at least two processes that are different.